ECONOMIC COMMENTARY

Energy Sector Drives Growth in Engineering Construction

January 16, 2014

Highlights:

Alberta's engineering construction sector was hard hit by the global recession, but has bounced back strongly since then as a result of the rapidly expanding oil sands sector and surging investment in electric power.

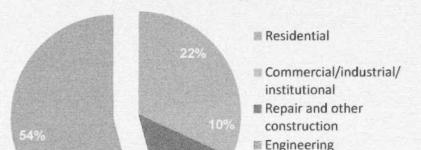


Overview of the Engineering Construction Sector

Alberta's construction sector is the second largest provincial construction industry - only Ontario's is larger. In 2012, Alberta accounted for 24% of Canadian construction output (Gross Domestic Product). By comparison, in that same year Alberta accounted for 17% of total Canadian Gross Domestic Product (GDP). Why is Alberta's construction industry so large? Because of its thriving Alberta's oil and gas sector.

In Alberta, engineering construction¹ is the largest construction sector, accounting for close to 55% of construction output and also for 55% of construction employment. Alberta accounts for about 40% of Canada's engineering construction GDP.

Construction GDP Shares by Sector



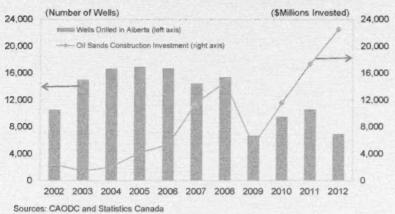
Engineering construction accounts for 5.5% of the total Alberta economy. In fact, this sector makes a larger contribution to the Alberta economy (on a GDP basis) than many large industries, such as retail trade, finance and insurance, and healthcare and social assistance.

Engineering Construction's Largest Sub-Sectors

Oil and gas engineering construction accounts for 75% of Alberta's engineering construction sector's GDP, followed by transportation engineering construction at 10% and electric power engineering construction at 8%. The two main determinants of oil and gas engineering construction are oil sands investment and investment in conventional oil and gas wells.

¹ The engineering construction subsector comprises establishments whose primary activity is the construction of entire engineering projects (e.g. highways and oil sands projects), and specialty trade contractors, whose primary activity is the production of a specific component for such projects

Chart 1
Numbers of Wells Drilled and Oil Sands Construction Investment



Output Growth of Alberta's Engineering Construction Sector

Between 2007 and 2012, Alberta's engineering construction sector was one of the fastest growing sectors in the province with output growth of 25.4% over that period, compared with an 11.5% increase in GDP for the Alberta economy as a whole. This is especially surprising considering that this sector was hard-hit by the global economic crisis: GDP fell 35% in 2009. It has rebounded since then as engineering construction GDP rose 68% between 2009 and 2012.

Even though oil and gas engineering construction accounts for such a large share of engineering construction output, this sub-sector's GDP increased at a much lower rate of 14.6% between 2007 and 2012. Over that same period, GDP in the electric power engineering construction sub-sector more than tripled. Between 2008 and 2009 GDP in the oil and gas engineering construction sub-sector fell by more than one-half but had recovered all its losses by 2012.

GDP for the engineering construction sector increased by 6.6% in 2012 on rising oil sands investment and surging electricity investment. Oil and gas construction investment reached a record high of \$42.3 billion in 2012, while construction investment in electric power increased by one-half in 2012 to \$3.4 billion.

The Conference Board of Canada in its latest forecast expects growth of less than 1% in energy investment spending in Alberta in 2013 on lower drilling activity and modest growth in oil sands investment. However, they forecast energy investment spending to grow strongly between 2014 and 2017 by an average of 7% per year.

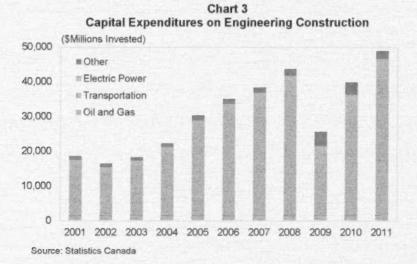
Chart 2 **GDP Growth in Engineering Construction** 60% 50% 38.2% 40% 31.3% 30% 19.9% 15.6% 20% 9.0% 6.6% 3.6% 10% 0% -10% ≅ Engineering construction -20% -30% MOil and gas engineering construction 40% -35 4% -50% -50.7 -60% 2010 2011 2012 2008 2009

Revenues

Source Statistics Canada

In 2010, revenues in the engineering construction sector totaled almost \$37 billion with about 75% attributed to the oil and gas engineering construction sub-sector. Although at the present only revenue estimates for 2009 and 2010 are available for this sector, revenues for other years can be estimated based on construction capital expenditure estimates². Between 1998 and 2008, capital expenditures in the sector more than tripled. Expenditures tumbled by more than 40% in 2009, but have nearly doubled between 2009 and 2011.

The largest expenditure categories for oil and gas engineering are development drilling and production facilities (mainly oil sands) at about \$15 billion each in 2011. Other sizeable categories include: exploration drilling; drilling, pre-mining, research; oil and gas pipelines; natural gas processing plants; geological and geophysical expenditures.



² Source: Statistics Canada table 029-0040, capital expenditures on construction, by type of asset

Employment

Between 2003 and 2008, the number of employees in the engineering construction sector grew by more than 60% to 142,295, followed by a decline of more than 34,000 in 2009. All of these employment losses had been recovered by 2012 when the number of jobs totaled 147,565. The large decline in 2009 was the result of an employment decline of about 47,000 in the oil and gas engineering construction sub-sector. In 2013, employment also grew strongly: the number of workers is this sector grew by about 13,000 from 2012 based on year-to-date averages for the first 10 months.

Productivity

Productivity levels in the engineering construction sector are lower than in most other large industries in Alberta. In 2012, engineering construction labour productivity³ was \$46.30 per hour worked, well below the average of \$68.80 in Alberta's business sector. Between 2007 and 2012, labour productivity in the engineering construction sector grew at an average annual rate of 1.2%, slightly higher than the 1.0% rate of Alberta's entire business sector. The recession caused productivity levels to drop sharply in many sectors, including engineering construction, as output declines outstripped employment declines. However, productivity in this sector has grown sharply since then.

Summary

Alberta's engineering construction sector is one of Alberta's largest sectors and its size is largely the result of the thriving energy sector. The rapid expansions of the oil sands as well as the electric power industry have fueled the engineering construction sector, which saw its output grow by more than one-quarter between 2007 and 2012. This sector's revenues likely expanded past the \$50 billion mark in 2013 and it employs close to 150,000 workers. It is expected to see strong growth over the next few years as investment in the energy sector is forecast to continue to grow at a solid pace.

³ Real GDP per hour worked, in 2007 constant dollars